Listing of claims

1. (Cancelled)

2. (Previously Presented) A system as set forth in claim 21, wherein said server is configured to conduct a search of the World Wide Web, identify documents that include new answer S-A-O's each comprising query elements in the problem statement, store links to such documents, and add such new answer S-A-O's to the knowledge base.

3. (Previously Presented) A system enabling a user to ask a question (query) and for providing the user with one or more answers or in the form of solutions to such question, the system comprising:

a knowledge base comprising a set of answers having the form S-A-O (subject-action-object), and further comprising links to documents corresponding to the set of answers;

a problem statement generator configured to receive a natural language query from a user apparatus and to automatically generate a problem statement as a query in the form A-O, S-A, S-X-O or S, where S, A and O are query elements in the natural language query, where X indicates absence of a query element;

a server coupled to the knowledge base, the server configured to search the knowledge base using the problem statement to find at least one S-A-O answer, wherein the A and O, or S and A, or S and O or S query elements in the problem statement are also in the at least one S-A-O answer, wherein the at least one S-A-O answer includes a statement extracted from a document that provides a solution solicited by the natural language question; and

a communication device configured to transmit the at least one answer S-A-O and associated active document links to the user apparatus,

wherein said server is configured to conduct a search of the World Wide Web, identify documents that include new answer S-A-O's each comprising query elements in

the problem statement, store links to such documents, and add such new answer S-A-O's to the knowledge base, and

wherein said server is also configured to conduct said search of the World Wide Web automatically in response to the server determining that no answer S-A-Os exist in the knowledge base comprising the query elements in the problem statement.

4. (Previously Presented) A system enabling a user to ask a question (query) and for providing the user with one or more answers or in the form of solutions to such question, the system comprising:

a knowledge base comprising a set of answers having the form S-A-O (subject-action-object), and further comprising links to documents corresponding to the set of answers;

a problem statement generator configured to receive a natural language query from a user apparatus and to automatically generate a problem statement as a query in the form A-O, S-A, S-X-O or S, where S, A and O are query elements in the natural language query, where X indicates absence of a query element;

a server coupled to the knowledge base, the server configured to search the knowledge base using the problem statement to find at least one S-A-O answer, wherein the A and O, or S and A, or S and O or S query elements in the problem statement are also in the at least one S-A-O answer, wherein the at least one S-A-O answer includes a statement extracted from a document that provides a solution solicited by the natural language question; and

a communication device configured to transmit the at least one answer S-A-O and associated active document links to the user apparatus,

wherein said server is configured to conduct a search of the World Wide Web, identify documents that include new answer S-A-O's each comprising query elements in the problem statement, store links to such documents, and add such new answer S-A-O's to the knowledge base, and

wherein said server is programmed to prompt the user for a command to initiate the search of the World Wide Web.

5. (Previously Presented) A system as set forth in claim 21, wherein the user apparatus converts human voice signals into said problem statement.

6. (Previously Presented) A system as set forth in claim 21, wherein the user apparatus converts the at least one answer S-A-O into audio signals.

7. (Previously Presented) A system as set forth in claim 21, wherein said user apparatus includes voice-to-text and text-to-voice recognition capability and a client software module including the problem statement generator.

8. (Previously Presented) A system as set forth in claim 21, wherein said user apparatus includes a user digital computer for generating said problem statement and receiving said at least one answer S-A-O.

9. (Original) A system as set forth in claim 8, wherein said user apparatus further includes at least one user input device that includes a human voice to signal converter or a keyboard.

10. (Original) A system as set forth in claim 8, wherein said user apparatus further includes at least one user input device that includes a signal to audio converter or a visual display monitor.

11. (Previously Presented) A system as set forth in claim 21, wherein each of the at least one answer S-A-Os is represented in a sentence format.

12. (Cancelled)

13. (Previously Presented) A method as set forth in claim 22, further comprising searching the World Wide Web, identifying documents that include new answer S-A-O's

each comprising query elements in the problem statement, storing links to such documents, and adding such new answer S-A-O's to the knowledge base.

14. (Previously Presented) In a digital computing system, a method enabling a user to input a question (query) and providing the user with one or more answers or solutions to such query, the method comprising:

receiving a natural language user query that includes one or more query elements in the form of A-O, S-A, S-X-O, or S, where X indicates absence of a query element;

providing a knowledge base of semantically and automatically processed information including a set of answers in the form of S-A-O's (subject-action-object), and further comprising active links to documents corresponding to the set of answers;

automatically generating a problem statement in the form A-O, S-A, S-X-O or S from the natural language query, where S, A and O are query elements in the natural language query;

using the problem statement, identifying in the knowledge base at least one answer S-A-O, wherein the A and O, or S and A, or S and O, or S query elements in the problem statement are also in the at least one S-A-O answer;

transmitting signals representative of the at least one answer S-A-O to the user apparatus; and

searching the World Wide Web, identifying documents that include new answer S-A-O's each comprising query elements in the problem statement, storing links to such documents, and adding such new answer S-A-O's to the knowledge base, including initiating said searching automatically in response to determining that no answer S-A-Os exist in the knowledge base that include the query elements in the problem statement.

15. (Previously Presented) In a digital computing system, a method enabling a user to input a question (query) and providing the user with one or more answers or solutions to such query, the method comprising:

receiving a natural language user query that includes one or more query elements in the form of A-O, S-A, S-X-O, or S, where X indicates absence of a query element;

providing a knowledge base of semantically and automatically processed information including a set of answers in the form of S-A-O's (subject-action-object), and further comprising active links to documents corresponding to the set of answers;

automatically generating a problem statement in the form A-O, S-A, S-X-O or S from the natural language query, where S, A and O are query elements in the natural language query;

using the problem statement, identifying in the knowledge base at least one answer S-A-O, wherein the A and O, or S and A, or S and O, or S query elements in the problem statement are also in the at least one S-A-O answer;

transmitting signals representative of the at least one answer S-A-O to the user apparatus; and

searching the World Wide Web, identifying documents that include new answer S-A-O's each comprising query elements in the problem statement, storing links to such documents, and adding such new answer S-A-O's to the knowledge base, including prompting the user for a command to initiate the searching of the World Wide Web.

16. (Previously Presented) A method as set forth in claim 22, further comprising converting human voice signals into said problem statement.

17. (Previously Presented) A method as set forth in claim 22, further comprising converting the at least one answer S-A-O into audio signals or visual display.

18. (Previously Presented) A method as set forth in claim 22, wherein generating the problem statement includes converting voice-to-text.

19. (Previously presented) A method as set forth in claim 17, wherein generating the audio signals or visual display includes converting text-to-audio or voice-to-text.

20. (Previously presented) A method of providing one or more solutions in response to a user query, the method comprising:

providing a knowledge base of semantically and automatically processed information including a set of answers in an S-A-O (subject-action-object) format, and further comprising active links to documents corresponding to the set of answers;

processing a natural language user query at a user device, including generating a problem statement in the form A-O, S-A, S-X-O or S from the natural language user query, where S, A and O are query elements in the natural language query and X indicates absence of a query element, converting the problem statement into a URL query, and sending the URL query to a semantic server having access to the knowledge base;

generating a non-keyword knowledge base query from the URL query at the semantic server and searching the knowledge base using the semantic elements and semantic relationships from the problem statement to find one or more answer S-A-O, wherein the one or more answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-O format;

and if the one or more answer S-A-O is found, converting the one or more answer S-A-O into at least one HTML page and sending the at least one HTML page to the user device; and

processing the at least one HTML page at the user device to output the one or more answer S-A-O to the user query.

21. (Previously Presented) A semantic answering system that returns natural language answers in an S-A-O (subject-action-object) format in response to a natural language question, wherein the S-A-O format represents semantic relationships between the S, A, and O elements, the system comprising:

a problem statement generator that processes the natural language question to extract a problem statement in a format X-A-O, S-A-X, S-X-O, or S-X-X, wherein S, A, and O are semantic elements in the natural language question, X indicates absence of an S, A, or O;

a knowledge base comprising an answer database including a set of answer S-A-Os and, for each answer S-A-O, a link to a source document;

a semantic server configured to perform a non-keyword query of the knowledge base using the semantic elements and semantic relationships from the problem statement to find at least one answer S-A-O, wherein the at least one answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-O format; and

a communication device configured to output the at least one answer S-A-O to a computer.

22. (Previously Presented) In a digital computing system, a semantic answering method that returns natural language answers in an S-A-O (subject-action-object) format in response to a natural language question, wherein the S-A-O format represents semantic relationships between the S, A, and O elements, the method comprising:

processing the natural language question to extract a problem statement in a format X-A-O, S-A-X, S-X-O, or S-X-X, wherein S, A, and O are semantic elements in the natural language question, X indicates absence of an S, A, or O;

providing a knowledge base comprising an answer database including a set of answer S-A-Os and, for each answer S-A-O, a link to a source document;

performing a non-keyword query of the knowledge base using the semantic elements and semantic relationships from the problem statement to find at least one answer S-A-O, wherein the at least one answer S-A-O includes the A and O, S and A, S and O, or S from the problem statement and an S, A, or O to replace each X in the problem statement, thereby completing the S-A-O format; and

outputting the at least one answer S-A-O to a computer.